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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,854	07/22/2003	Kazuya Kimura	SUNSTAF-1025	6549

7590 04/20/2005

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EXAMINER

ELKASSABGI, HEBE

ART UNIT PAPER NUMBER

2834

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/624,854

Applicant(s)

KIMURA ET AL.

Examiner

Heba Elkassabgi

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/22/03, 10/18/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 15-19, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 11-16 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

1. The drawings were received on 10/18/2004. These drawings are have been accepted to replace the previous drawings of 07/22/03.

Specification

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

1. Applicant is advised to review the claim language for any errors or clarification and for proper grammar.
2. The claim limitation of claims 1-22 of the predetermined thermal expansion coefficient and the elastic part, are understood by the Examiner to be the desired material choice of the structure. The Examiner would like to extend the courtesy to the Applicant to further clarify this matter if the above conclusion is not correct.

3. The claim limitation of claim 9 of the radius surface being approximately 5/1000 to 15/1000, is not understood as to what measurement the applicant is using.

Traditionally, in the U.S. it would be inherent to one of ordinary skill in the art to assume that the correct measurement would be in inches. The Examiner would appreciate clarification of this matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-10, 15-19, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiwaki et al (US Patent 6836051 B2).

1. Hiwaki et al. discloses and illustrates in figures 1 and 2 an electric motor having a housing (31) with an inner circumferential surface (A, see attached figure) and a compression mechanism (see figure 6 and 7) is accommodated in the housing (31) for compressing gas by driving the electric motor. A stator core (11) having an outer circumferential surface (B, see attached figure). A void (17, through hole) is defined between the inner circumferential surface (A see attached figure) and the outer circumferential surface (B) so as to prevent the inner (A, see attached figure) and the outer (B see attached figure) circumferential surfaces from contacting each other in a

circular region. In regards to claim 4, the stator core (11) having a central axis, with the number of the voids (17, through holes) being plural, a plurality of the voids being provided around the axis. In regards to claim 5, the number of the voids (17) is three or more than three. In regards to claim 6, the housing (31) and the stator core (11) have a plurality of contacting portions (C, see attached figure) between, and the plurality of voids (17) are provided in such a manner that the plurality of contacting portions (C, see attached figure) are arranged at intervals of an equal angle around the axis (see attached figure). In regards to claim 7, the housing (31) and the stator core (11) have a plurality of contacting portions (C, see attached figure) between, the plurality of voids (17) being provided in such a manner that the plurality of contacting portions (C, see attached figure) are arranged at intervals of an unequal angle around the axis. In regards to claim 8, the void (17) is provided by forming a recess in the outer circumferential surface (B, see figure attached). In regards to claim 9, figure 5 illustrates a stator core (11) has a central axis, the recess (17) having a bottom surface (E) in which a region is located at the opposite sides in a circumferential direction of the stator core (11), at least the region existing in a first imaginary cylindrical surface, whose center is located on the axis, the inner circumferential surface (A) and the outer circumferential surface (B) being contacted with each other in a contact region (F), the contact region (F) existing in a second imaginary cylindrical surface, whose center is also located on the axis. In regards to claim 10, a thinned portion (G) in the shape of a concave surface is formed in the recess (17). In regards to claim 15, the stator core has a central axis, the inner circumferential surface and the outer circumferential surface

being contacted with each other in a contact region, the contact region existing in an imaginary cylindrical surface, whose center is located on the axis, the contact region having a first predetermined area, the imaginary cylindrical surface having the same length as the stator core in the direction of the axis, the imaginary cylindrical surface also having a non-contact region where the inner circumferential surface and the outer circumferential surface do not contact each other, the non-contact region having a second predetermined area, the void being formed in such a manner that the first predetermined area becomes smaller than the second predetermined area. In regards to claim 17, a coil (14W,U, V) is intensively wound around the stator core (11). In regards to claim 18, the coil is distributive wound around the stator core (11). In regards to claim 22, a stator core (11) has a central axis, a first space (see attached figure 6) and a second space (see attached figure 6) being defined at opposite sides of the axis in the housing (31). The void (17) interconnects the first space with the second space. A compression mechanism (30) is placed at the first space side and a mouth (see figure 6) of the electric type compressor (30), that is formed through the housing (31) so as to correspond to the second space, and connect with an external piping (see figure 6) and the void being utilized as a gas passage that interconnects the compression mechanism with the mouth (see column 1, columns 34-40).

2. Hiwaki et al. discloses the claimed invention except for the housing having a first predetermined thermal expansion coefficient and the stator core having a second predetermined thermal expansion coefficient and whether one has a larger coefficient

to the other. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a desired material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

3. Hiwaki et al. disclose the claimed invention except for the housing having an elastic part. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the desired material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

4. Hiwaki et al. discloses the claimed invention except for the housing being made of aluminum and/or aluminum alloy and the stator core being made of silicone steel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the desired material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leashin, 125 USPQ 416.

5. The method of the stator core and the housing being tight fit by either expansion or shrinkage and to be elastically deformed is a method of forming the device, which is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

6. Hiwaki et al. discloses the claimed invention except for the radius of the imaginary cylindrical surface being approximately 5/1000 to 15/1000. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a desired range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

7. Hiwaki et al. discloses the claimed invention except for the ratio of the first predetermined area to the total area of the first predetermined area and the second predetermined area is 30% or less than 30%. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a desired range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Allowable Subject Matter

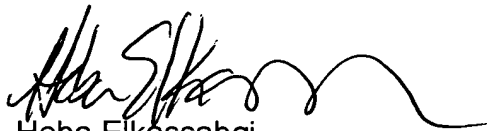
1. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not disclose that the [housing] has a void that is provided by forming a recess in the inner circumferential surface of the [housing].
2. Dependent claims 12-14 are allowed for being dependent upon claim 11.
3. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not disclose a first void element that is provided by forming a recess in the outer circumferential surface [outer circumferential surface being the stator core) and a second void element being provided by forming a recess in the inner circumferential surface [the inner circumferential surface being the housings].

Conclusion

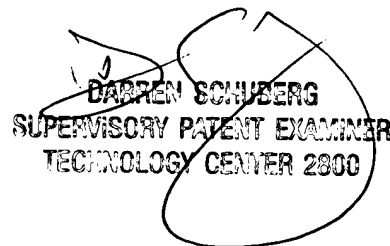
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is 571-272-2023. The examiner can normally be reached on Weekdays, 9:00 am to 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Heba Elkassabgi
United States Patent and Trademark Office
Patent Examiner AU 2834
Class 310- Electrical Generator/Motor Structure



DARREN SCHUBERG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

FIG. 1

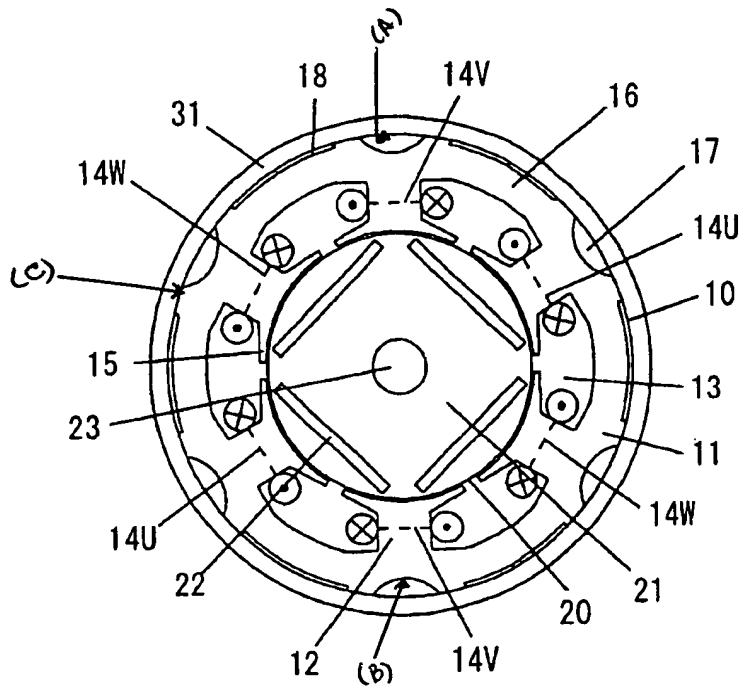


FIG. 2

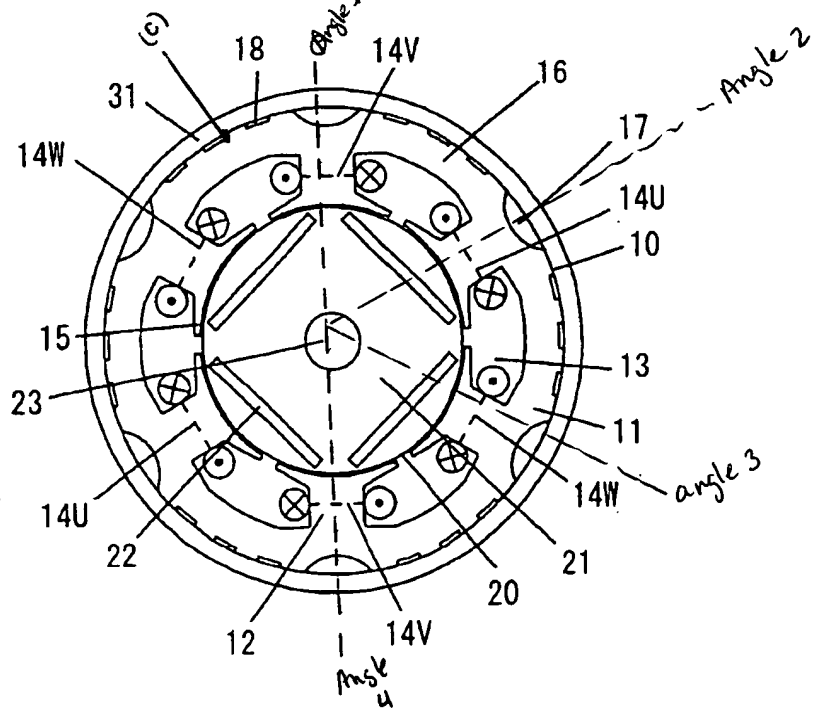


FIG. 5

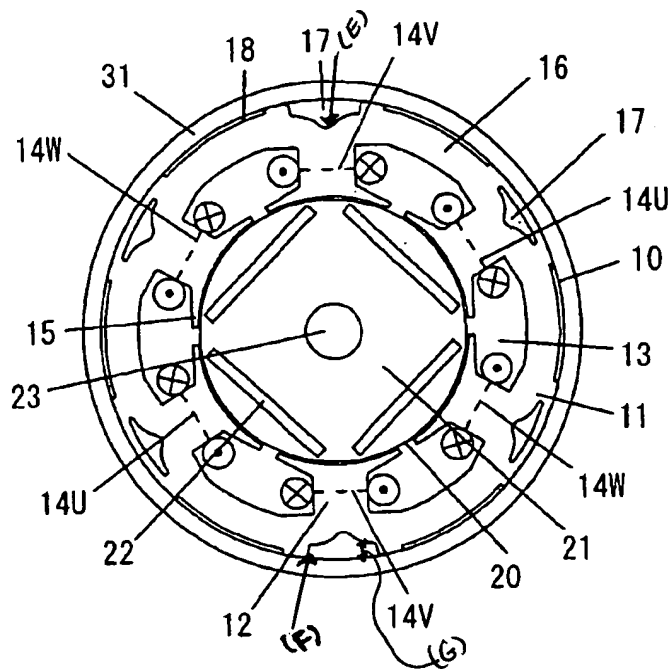


FIG. 6

